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ABSTRACT

Creating an integrated curriculum requires a collaboration that balances the personal, professional, and production aspects of a project. This paper describes interaction within a team of teachers whose focus for developing an integrated curriculum emerged from a community-arts organization. Topics examined include: the tension between team members, the ways in which teachers from different disciplines perceived the process of developing an integrated curriculum based on a master work of art, and their contributions to the project. The Arts Related Integration and Assessment (ARIA) Project, initiated by the Dallas (Texas) Opera, began as a study about how different disciplines naturally contribute to the study of opera as a master work of art. Data were collected over a 1-year period and were gathered through participant observation, surveys, sociograms, learning profiles of the teachers, and unstructured conferences with team members. Findings show that balance between personal needs, team members' expectations, and the need to produce a practical product became vital to the project's success. The success of "good-fit" teachers demonstrates that opera is a viable source of integrated-curriculum design. Teachers with minimal experience with opera made valuable contributions as team members and producers of the curriculum. However, two members' preformed ideas and tacit ownership of the art form prevented them from participating on a higher level. Staff members therefore must carefully select team members and include a variety of learning styles to ensure the project's completion, depth, and breadth. Knowledge and experience of differences and likenesses among team members' disciplines, learning styles, preferences, and perceptions increase the potential for achieving balance between both the team and the product. These elements form the yin and yang of designing and producing an integrated curriculum. One table and three figures are included. (contains 30 references.) (LMI)

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Yin and Yang: The Process of Developing Integrated Curriculum

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Yin and Yang: The Process of Developing Integrated Curriculum

Creating an integrated curriculum requires a collaboration that balances personal, professional, and production aspects of a project. Individual team members involved in an integrated curriculum design project must recognize differences in personal styles, professional orientations, and academic disciplines, and they must respond with adjustment to assure success.[1] Cognizance on this level mandates that collaborators understand the curricular construction process and the challenges of deliberation, reconsideration, and reconstruction of ideas.[2] These considerations influence the product—an integrated curriculum that corresponds to the needs of the learners, areas of study, and context for instruction.[3]

The creation of such a product challenges professional curriculum specialists and teachers alike. To approach the subject of curriculum development, the theoretical debates regarding the use of Tyler and Taba versus Schwab or Walker suggest a need to understand curriculum theory in depth.[4] Teachers, skilled in implementing curricula and not necessarily designing them, face the dilemma of creating integrated curricula to satisfy

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[1]Sandra Blenkinsop and Penelope Bailey, "An Inquiry into Collaboration and Subject Area Integration in Teacher Education" (Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 1995), 6; Dennis N. Banks and Anna M. Stave, "Promoting Curriculum Integration Through Example or Practice What You Preach: A Case Study" (Paper presented at the annual meeting of the College and University Faculty Assembly of the National Council for the Social Studies, Phoenix, November 1994), 7; Daniel L. Kain, "Recipes or Dialogue? A Middle School Team Conceptualizes 'Curriculum Integration,'" *Journal of Curriculum and Supervision* 11, no. 2 (Winter 1996): 182.

[2]Francis P. Hunkins and Patricia A. Hammill, "Beyond Tyler and Taba: Reconceptualizing the Curriculum Process," *Peabody Journal of Education* 69, no. 3 (Spring 1994): 15-16; Blenkinshop, "Inquiry into Collaboration," 8; William A. Reid, "Practical Reasoning and Curriculum Theory: In Search of a New Paradigm," *Curriculum Inquiry* 9, no. 3 (1979): 197-8.

[3]Donna F. Berlin, "Teacher Action Research: The Impact of Inquiry on Curriculum Improvement and Professional Development," (Paper presented at the annual meeting of the American Educational Research Association, New York, April 1996),1; W. A. L. Blyth, "One Development Project's Awkward Thinking about Objectives," *Journal of Curriculum Studies* 6, no. 2 (November 1974): 106.

[4]Bob Campbell et al., "Science: The Salters' Approach—A Case Study of the Process of Large Scale Curriculum Development," *Science Education* 78, no. 5 (1994): 421; Decker F. Walker, "A Naturalistic Model for Curriculum Development," *School Review* 80 (November 1971): 52-3; Hunkins and Hammill, "Beyond Tyler and Taba," 14-15; Reid, "Practical Reasoning," 196-7.

administrative mandates or experimental trends from neighboring universities.[5] As a result, teachers as curriculum writers bring a discipline-based, isolationist mentality to a process that requires a dismissal of mores and an acceptance of differences.[6]

However, teachers, when given the opportunity to explore distinctions and contemplate the human dynamics needed in the process, achieve success.[7] The guiding principles behind that success include: direction, purposefulness, team development, deliberation, risk taking, and a balance between conflict and harmony.[8] Dualism in ancient Chinese philosophy, Yin and Yang, suggests that natural phenomena find definition in polarization.[9] In spite of the opposition, there exists a natural will to create harmony from conflict. When related to developing curriculum, there exists a natural contrast between the result of implementing an integrated curriculum, whole understanding by the learner, and the process of developing the product, divisiveness and isolationism among its creators—the teachers. Teachers pulling to the center of an integrated curriculum design project increase the prospect of balance.[10]

One form of purposefulness emanates from a central focus for integrated curriculum design. Focus, either generated from within the teacher-team or by an outside unifying force, provides purposefulness in the project and acceptance by team members.[11] This article reports an analysis of a team of teachers whose focus for developing an integrated curriculum emerged from an outside source, a community arts organization. The report

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[5]K. R. Gray, "What Can Teachers Contribute to Curriculum Development?," *Journal of Curriculum Studies* 6, no. 2 (November 1974): 121; Berlin, "Teacher Action Research," 1-3; Blyth, "Awkward Thinking," 106; Jane Hange and Helen Rolfe, "Interdisciplinary Curriculum and Instruction: Teaming to Improve Learning and Motivation," (Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 1995), 3-4.

[6]Banks and Stave, "Promoting Curriculum Integration", 3; Hange and Rolfe, "Interdisciplinary Curriculum," 4; Kain, "Recipes or Dialogue," 182; Naama Sabar, "An Integrative In-Service Training for a Curriculum Team," *Journal of Curriculum Studies* 9, no. 1 (1977): 81.

[7]Reid, "Practical Reasoning," 206; Gail Richmond and Joanne Adriley, "An Integrated Approach," *Science Teacher* 61, no. 7 (1994): 45.

[8]Gray, "What Can Teachers Contribute," 121, 128; Berlin, "Teacher Action Research," 3; Sabar, "Integrative In-Service Training," 86-7.

[9]Grolier Multimedia Encyclopedia, s.v. "Yin and Yang"

[10]Gray, "What Can Teachers Contribute," 121, 128

[11]Richmond and Adriley, "Integrated Approach," 45.

examines the tension between team members, their perceptions of the project, and their contributions to the endeavor. How do teachers, representing four distinct disciplines, perceive the process of developing an integrated curriculum based on a masterwork of art? What can curriculum developers learn about the process of guiding teachers through designing an integrated curriculum based on a masterwork of art? What are the needs and limitations of teachers who undergo the development of an integrated curriculum based on a masterwork of art? These questions directed this research.

The report divides into three parts. First, a description of the ARIA Project sponsored by The Dallas Opera establishes the context for the study. Second, the guidance of teachers through the process of designing the product is examined over the six months of curriculum development. Finally, the implications of this study are discussed.

Context for the Study: The ARIA Project

The Dallas Opera has provided educational programs for school children in the Dallas metroplex for over thirty-five years. These programs include: in-school performances of puppet operas for young children, artist visitation programs featuring young professional singers, dress rehearsal access for high school students, and matinee performances of professional productions for middle and junior high school students. For each program the company provides teachers with preparatory materials designed to enhance the experience for the students.

Prior to 1994 The Dallas Opera's instructional materials consisted of a collection of related activities. Each student received a newspaper, *The Dallas Opera Morning News*, that featured information about the story line, introduced the characters in the opera, described the composer and librettist, presented photographs of scenes from the opera, and concluded with cross-word puzzles and word searches related to the information in the paper. The accompanying audio recording and video tape provided students and teachers with vignettes of the opera. The teacher's guide included black-line masters of pictures of

instruments in the orchestra, the stage, and the composer, text from several scenes in the opera, and activities for preparing students to attend the opera performance. The component parts of the preparatory package, though valuable, examined the opera experience from a single perspective, the opera as a performance of music on a stage.

In 1994, The Dallas Opera changed its perception of student preparation and began to consider the opera as a focus for integrated curricula. The Arts Related Integration and Assessment (ARIA) Project began as a study of how different disciplines naturally contribute to the study of opera as a masterwork of art. The disciplines incorporated into the first integrated unit, centered around Rossini's *Cinderella,* included social studies, language arts, and music. Numerous literary sources from around the world that retold the Cinderella story (e.g., *Mufaro's Beautiful Daughter, The Rough Faced Girl*, etc.) were examined and used as a basis for incorporating the issue of multicultural likenesses and differences along a common theme: purity of virtues and courage. The original components of the previous materials package remained static (teacher's guide, video tape, audio tape, student newspaper) but now focused on the opera as a springboard for thought across other disciplines.

The ARIA Project's first attempts at curriculum writing began slowly. Two teachers wrote "lessons" that were later scrutinized by a curriculum consultant. It became readily apparent that the teachers' commitment to their original ideas exceeded their devotion to the project's goals, resulting in personal levels of communication and rendering the curricular issues secondary and, at times, obsolete.[12] The teachers' defensive stances toward their work and their discipline reflected their limited experience in designing aligned curricula or consideration of integrated curricula. The strain of the process led the education staff of the opera company to reconsider its approach to design.

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[12]Gray, "What Can Teachers Contribute," 128; Berlin, "Teacher Action Research," 12; Thomas W. Roby, "Habits Impeding Deliberation," *Journal of Curriculum Studies* 17, no. 1 (1985): 22; Banks and Stave, "Promoting Curriculum Integration", 8-12.

This reconsideration led to an adjustment in the company's use of teachers as writers in the development of materials for the opera *Madama Butterfly*. Three teachers hailing from the disciplines of music, social studies, and language arts served as members of the writing team. The teachers underwent a two-hour training session on the topics of integrated curriculum and alternative assessment. The teachers, directed to research Japanese culture, music, and literature as related to the time in which the opera occurred, returned with vast differences in perception and approach to integration. The most poignant observations noted during the *Butterfly* cycle of curriculum evolution identified several needs: development of team purpose and unity, increased time to develop materials, greater understanding of the concepts of integration and curricular constructs, and value for other disciplines. These observations dictated the improvements the education staff initiated as they entered the third cycle of the project, the development of instructional materials for Bizet's *Carmen*.

For the *Carmen* cycle, a complete restructuring of the process ensued. From a pool of thirty applicants, eight teachers were selected in four disciplines: music, social studies, language arts, and visual art. Each candidate's application underwent careful scrutiny by a panel of three opera education/curriculum consultant personnel. The eight resulting members represented, according to their self-evaluations, "like minds" for designing integrated curricula. Training in the skills necessary to develop an integrated curriculum and careful guidance through that process proceeded across a six month period. Their work and the product of their efforts provide a lens through which to examine the strain and harmony associated with the process of developing an integrated curriculum with a masterwork of art as its focus.

Method

Data for the ARIA Project study were collected over a period of one year. During that year the teachers underwent the development process, field-tested the product, and assessed student understanding. The developmental aspects of the first six months

represent the primary focus of this study. The means of data collection included participant observation by the five staff members, surveys, socio-grams, a learning profile, and unstructured conferences with team members. Staff members observed and documented each of six one-day sessions. Teachers completed the Kolb Learning Styles Inventory[13] and a survey of their perceptions as a team contributor across eleven categories of skills necessary in the curriculum construction process. Following three sessions of instruction, team members selected from the pool of eight teachers the three with whom they could work most amicably throughout the construction process. These data resulted in a socio-gram which provided the coordinators with information for cooperative groupings.

Data analysis consisted of a grounded theory approach whereby no assumptions were made about the outcomes of the data analyzed. Observation notes were read and culled for codings from which subsequent patterns emerged. These patterns were triangulated with other data from documents and examined for confirmatory alignment across data sources. The process generated several diagrammatic representations of the information that guided deliberation.[14]

The Process

The process included two phases: preparation for construction and curriculum construction. Phase I, preparation for construction, included three components: team building, knowledge acquisition, and skill development. During Phase II, curriculum construction, the team underwent a series of exercises that followed a pattern: develop --> share --> critique --> deliberate --> reflect --> adjust.[15] Throughout Phase II, the staff used cooperative learning structures,[16] Kolb LSI data, and the socio-gram to group team

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[13]David A. Kolb, *Learning Style Inventory* (Boston: Hay/McBer, 1985).

[14]Steven Taylor and Robert Bogdan, *Introduction to Qualitative Research Methods* (New York: John Wiley and Sons, 1984); Matthew Miles and A. Michael Huberman, *Qualitative Data Analysis*, 2nd ed. (Thousand Oaks, CA.: Sage Publications, 1994).

[15]Walker, "Naturalistic Model," 52-3; Campbell et al., "The Salters' Approach," 420-1; Joseph J. Schwab, "The Practical 3: Translation into Curriculum," *School Review* 81, no. 4 (August 1973): 518-522.; Reid, "Practical Reasoning," 197-8.

[16]Spencer Kagan, *Cooperative Learning*, (San Juan Capistrano, CA.: Kagan Cooperative Learning, 1994), 5:1-7

members across discipline lines and enhance team decision making, understanding, and support.

Phase I: Preparation for Construction

Learning Style Profiling

During this phase teachers met one full day each month across three months to receive information about the opera, build the team, and develop the skills necessary to write the curriculum. At the initial meeting each team member completed the Kolb Learning Styles Inventory,[17] a self-scoring inventory that uses twelve open-ended statements to ascertain a preferred learning style. The inventory addresses four stages of the cycle of learning: concrete experience, reflective observation, abstract conceptualization, and active experimentation. The diagrammatic representation of the cycle results in a matrix of four quadrants. The vertical axis of the matrix represents the learner's method of perceiving new information, ranging from concrete to abstract. The horizontal axis represents the learner's mode of processing perceptions, ranging from active to reflective. The result of the self-assessment produces a point on the matrix that combines the learner's perception of new knowledge and their mode of processing that information.

Insert Figure 1 here

Kolb labels each quadrant according to the attributes of the combined perception and processing paradigm, as noted in figure 1. Having completed their self-assessments, team members plotted their results on a common matrix (fig. 1). The value in positioning team members according to their score lies in the guidance it provides both facilitators and

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[17]Kolb, *Learning Style Inventory*.

team members in proceeding through the process of curriculum development. Team members shared this information at the onset of the project.

Kolb suggests that an active learner regularly cycles through all four quadrants in processing through new learning experiences. As intensity of their work increases, however, learners tend to fixate in their preferred style.[18] The project staff encouraged team members not only to recognize their preferred learning style but also to venture through all aspects of the learning cycle as new information transpired. The team discussed the synergetic aspects of combining different learning styles in a working team; however, they ultimately followed the pattern of homeostasis when tension increased or the project veered in a direction outside the realm of their expectations. This was particularly evident in Marilyn's case.

Marilyn's classification as a converger implies that under duress, she will return to the idea she brought to the project at the onset, by-passing the other aspects of the problem-solving process and essentially completely disregarding deliberation as a necessary component.[19] As a music teacher who had presented *Carmen* to numerous classes of elementary students, Marilyn brought preformed notions about the curriculum to the development process. This factor coupled with her converger profile rendered her contribution to both the process and product meaningless. Team members, aware of her learning profile and predilection toward music as the only viable subject to consider when creating curriculum for an opera, attempted to draw her in but soon accepted the inevitable and worked around her.

The majority of the teachers (5/8) rated themselves in the assimilator quadrant (fig. 1). The attributes of this learning style indicate a group that plans, creates, defines and develops ideas well but struggles with practical application. Characteristically, they have

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[18]Nancy Dixon, "Theory of communication in social settings as applied to the Kolb learning styles inventory," (University of North Texas: Photocopy, 1994). This handout details the governing, action strategies and consequences of behaviors of the four categories of learning styles.

[19]S.J. Parnes, B. Noller and A. Biondi, *Creative action book* (New York: Charles Scribner and Sons, 1976), quoted in Robin Fogarty and James Bellanca, *Patterns for Thinking Patterns for Transfer* (Palatine, IL.: IRI/Skylight Publishing, 1991), 277.

difficulties learning from mistakes and generally demonstrate no systematic approach to a project. Four of the five team members who fell in the assimilator quadrant displayed these characteristics but, through mindful abstraction, used all the components of the learning cycle. These four entered the project with no preformed notions about the direction of the project and eventually brought themselves to a point of practical application of their ideas to the enhancement of the product.

Jonathan, like his assimilator counterparts, entered the project with no preformed notions but seemed unable to bring focus to his thoughts about the ideas generated in discussions around *Carmen*. For five of six sessions team members viewed various video renderings of the opera, listened to CD recordings of the music, read the libretto, discussed the story line and main characters, considered the sociological implications of gypsy life in Spain during the French incursion of 1808 (two years prior to the drama's action), and experienced simulated representations of scenes from the opera. In the penultimate session Jonathan expressed concern that "the group never really discussed *Carmen* in a concrete way." His tendency to accumulate and sort manifested itself when the pressure to produce a structured set of plans became apparent.

The two remaining team members fell into the classifications of converger and accommodator (fig. 1) and differed dramatically in their approach to the project from an LSI perspective. Louise, the second converger, had worked on the *Madama Butterfly* cycle and displayed the attributes common to her classification during times of intense pressure. However, with a year of experience within her repertoire, Louise found solace in the team's support during stressful times. She cycled through all four stages, though not without some difficulty. At one point in the process she commented that, "I can let go of my ideas and listen to what everyone else has to say, but it's about to do me in. At times I just wish everyone could see it the right way—my way." Ultimately, however, Louise became a model contributor to the project due to mindful deliberation and an understanding of the power of teaming.

Irene, the lone accommodator, experienced less success as a team member and producer. Her perceived profile aligned with the accommodator learning style, characteristically a person whose strengths include: accomplishing tasks in a timely manner, providing leadership, and taking risks. In Irene's case, however, the negative side of the accommodator prevailed. She generated meaningless activities and promoted trivial improvements to the project by distributing pleonastic sets of Bloom's Taxonomy verbs in place of those issued by the staff. Although she willingly made superfluous contributions, her designated responsibility, the music portion of the curriculum, lacked direction and practicality and was not completed on time. As in the case of Marilyn, she entered the project with the preformed notion of music as the only discipline worth delineating in the materials. Her extensive knowledge and experience with the work of art proved valueless to the team because of her preconceived notions about the project.

Teaming through Cooperative Groups

The Kolb LSI profiles provided the staff with baseline knowledge about team members and guided pairings for cooperative groupings during Phase I of the project. Previous experiences during the *Cinderella* and *Madama Butterfly* cycles indicated a need to instruct in knowledge and skill areas critical to the curriculum construction process. These areas included: curriculum theory, objective writing, research techniques, alternative assessment, integrated curriculum models, instructional models, and teaching for transfer. Team members attended three sessions where cooperative learning structures, simulated experiences, and inquiry and mastery instructional models provided the basis for hands-on experiences in these areas of instruction.[20] In all instructional settings, deliberation and reflective examination provided team members with the opportunity to consider applications for upcoming curriculum writing expectations. The combination of team members of varying LSI classifications provided multiple opportunities to ascertain the level of

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[20]Bruce R. Joyce and Marsha Weil, *Models of Teaching*, 3rd ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1986); Spencer Kagan, *Cooperative Learning*; Robin Fogarty, *The Mindful School: How to Integrate the Curriculum* (Palatine, IL.: IRI/Skylight Publishing, 1991).

"teamness" among members and practice cycling through all four quadrants of the learning styles matrix.

Throughout Phase I team members participated actively and receptively. During this time Irene, Marilyn, and Louise pressed the staff for directionality and closure on the design. The intent of the staff, however, was to leave the direction of the project in the hands of the group. Eventually, Louise assumed a more reflective posture, although she harbored her own perception of the direction of the project. Irene and Marilyn maintained the stand of the impossibility of the usefulness of an opera curriculum unless music was the sole discipline under consideration. The other five members consumed information voraciously, asking poignant questions and pondering possible directions for the project.

As a final exercise for Phase I, team members rated the instructional sessions, completed a socio-inquiry, and ranked their perceived skill level as a team contributor. The instructional sessions received generally high ratings from all team members, indicating at least a tacit acceptance of Phase I of the project. In the socio-inquiry team members selected three team members with whom they believed they could work amicably. The resulting socio-gram overlaid on an LSI matrix represents those choices (fig. 2). Louise and Jonathan clearly held the respect of the other group members. This high frequency of preference may be due, in part, to the fact that both of them spoke passionately during the training of the need for teaming and the value of integrated curricula to overall student learning. Other team members, most of whom were not outspoken, received equal attention in the socio-inquiry from other team members. In spite of her abundant supererogatory contributions throughout training, Irene garnered no more than the average number of votes. This socio-gram served as the next pairing tool for the staff when designing cooperative structures for Phase II of the project.

Insert Figure 2 here

In preparation for Phase II, team members rated their strengths and weaknesses in eleven categories as they perceived themselves in each category. The categories included: research, planning, idea generation, consensus building, article writing (for newspaper), video development, assessment, editing, audio tape development, lesson plan writing, and information compilation. The indicators used for rating these skills consisted of strength, medium strength, medium weakness, and weakness. An analysis of the actual performance of different team members within the team as related to their perceptions remained consistent for Hilda, Yvonne, Agnes, and Louise. Maria underestimated her contribution in research and information compilation. Jonathan, Marilyn, and Irene overestimated their potential for contribution in research, planning, idea generation, article writing, assessment and lesson plan writing.

Prior to the onset of Phase II, the potential for conflict and irresolution lay dormant but perceptible to the staff. To allay team disunity, staff members seriously considered both the socio-gram and the positive aspects of matching different learning styles to create groups for Phase II. One exception to this human design was the denial of Irene and Marilyn's choice of each other as an amicable partner. Observations during Phase I indicated that their pairing led to negativity about other disciplines as a part of the curriculum. This discipline-centric mentality concerned the staff, but the team remained in its theoretically optimum configuration as Phase II began.

Phase II: Curriculum Construction

The hallmark of Phase II, a high and positive production level of the team, also witnessed an increase in the amount of tension, defensiveness, and retreat to preferred learning styles. The pattern followed in Phase II, develop --> share --> critique --> deliberate --> reflect --> adjust, began in the first session. In this session team members created quasi-factorial analyses of thirty-five overarching questions which they submitted

prior to the session. Using the socio-gram and Kolb LSI profiles, two teams were formed to examine the questions, to sort them into comparable groupings, and to determine a single question that summarized the groupings. Teams were encouraged to eliminate non-matching, "loner" questions. The purposes of the exercise, to create teaming opportunities and to generate an overarching question for the curriculum, resulted in interesting interactions and products.

The overarching question

Group A consisted of Marilyn, Jonathan, Maria, and Agnes. Irene, Louise, Hilda, and Yvonne formed Group B. Both groups worked with the same set of questions. Interestingly, both groups refused to eliminate loner questions. The implication, that team members' dedication to each other's ideas superseded their dedication to the project's purpose for the exercises, showed a balance between these allegiances that tipped toward the personal. Allegiance to the personal accords with change management standards, which dictate that a team's personal concerns naturally precede either management or consequence.[21] In spite of this personal protection of each other's ideas, both teams successfully generated meaningful overarching questions.

In Group A, Jonathan, Maria, and Agnes worked diligently to cipher and decipher categories related to the data. Jonathan maintained the lead throughout the process, yet both Maria and Agnes made ample contributions to coding and reclassification, actively participating during the sharing and deliberation that followed when Group B returned with their findings. Marilyn physically removed herself from the group and sat on the other side of the room, sketching lesson plans for the music portion of the curriculum. This pattern of separatism signaled discord in the team, yet the other three members, fueled by the process of contemplation, proceeded.[22]

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[21]Shirley Hord et al., *Taking Charge of Change* (Alexandria, VA.: Association for Supervision and Curriculum Development, 1987).
[22]Roby, "Habits Impeding Deliberation," 32-3.

Group B's experience paralleled Group A somewhat. Yvonne and Hilda reveled in the opportunity to pile and compile and essentially led the group through the process. Louise attempted to create categories of questions based on her preformed perception of the curriculum. Her approach met with some disagreement from Irene, who argued that the exercise offered no meaning because of the need to place music as the central consideration in the curriculum design. In the end, Louise withdrew from the process. Irene continued to pull away from the purpose of the project, seemingly unaware of the unifying nature of the masterwork as the center and the integrative contributions of the many disciplines to the complete understanding of the opera *Carmen* for the student. This perception placed her at a distance from the team, with the exception of Marilyn, who shared her beliefs.

The two groups reconvened and shared their work in posterboard presentations. Group members openly questioned and critiqued each other's decisions and classifications. Team members considered the critiques and reflected on the comments. Both teams adjusted their positions on the overarching question until two questions from their combined efforts emerged: "How is art a reflection of the human condition?" and "How is the human condition reflected in art?" Agnes, although satisfied with the outcome, implored the group to regard the importance of decision making, a common theme throughout *Carmen*, as an imbedded theme within the questions. The group discussed the possibility and decided to incorporate this theme into the curriculum model.

The team revisited earlier instruction about integrated curriculum models, and, under direction from one of the staff members, proceeded to select a model appropriate to the project.[23] Following some debate and attention to Marilyn and Irene's concern over the diminishing of their discipline, the group decided to adopt the "integrated" model outlined in *The Mindful School: How to Integrate the Curriculum* resource. The team chose a Venn diagram to represent the four disciplines (fig. 3). The comfort for Marilyn and Irene with this design lay in the knowledge that there remained exclusive regions where only music

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[23]Fogarty, *How to Integrate the Curriculum*.

concepts occurred without interfacing with other disciplines. Agnes' suggestion became incorporated as a nested model (thinner inner circle within each discipline) with the caveat that each discipline incorporate decision making as part of the scope of instruction.

Insert Figure 3 here

With the decision for a model in place, cooperative pairings for research and writing emanated. Specialists coupled to form four distinct pairs, representing the disciplines of language arts (Hilda, Yvonne), social studies (Jonathan, Louise), visual art (Maria, Agnes) and music (Marilyn, Irene). These couplings supported the curricular design, but signaled continued potential for discord in the music area. Although Irene and Marilyn selected each other in the socio-inquiry and both were music specialists, their lack of understanding of the value of other disciplines as integral to the design of a curriculum for the opera *Carmen* prompted the staff to consider their removal from the team. But by giving them the benefit of the doubt, they remained.

Research Findings, Show and Tell

Discipline pairs worked for three weeks researching information that related to the opera as viewed from their discipline base and that related to discussions held in previous sessions. Each discipline team returned with books, paintings, poems, music, maps, and diagrams which they displayed on tables in "science fair" fashion, arranged in a circle. Each pair designated an 'A' and 'B' member for a round robin sharing session that ensued. 'B' members of a team traveled to each table, maintaining a journal of their journey through each of the other three discipline areas, while 'A' members stayed at the display and explained the research uncovered to their visitors. With three rounds completed, 'A' members rounded the tables while 'B' members returned to their home table and fielded questions from traveling 'A' members.

The purpose of the exercise, to share and understand each discipline's perception of the possibilities for curriculum content, provided an opportunity for team members to articulate their findings. As team members they noted relationships for the potential interrelatedness of disciplines. Agnes and Maria found paintings by Goya depicting the French insurrection and massacre which occurred two years prior to the opera's action. Don José, a central figure in the opera and a member of the military garrison in Seville, embodies the Spanish fight against the French which the painting depicts. Louise noted these connections and found ways to draw historical ties from social studies through the paintings. In a similar fashion, Hilda's research on the style of *flamenco* uncovered poetry about bullfighters that related to another prominent character, Escamillo. Again, Louise found connections between the heroic qualities of a bullfighter and the historical Spanish military figure El Cid. In their "travels," these three discipline teams found multiple options for incorporating discipline-based content within the context of issues presented in the opera.

As part of an ongoing pattern of isolationism, the music team veered in a completely different direction. They elected to focus on the composer, Bizet, and on his French heritage, totally disregarding the Spanish context of the opera. Discussions at the music table during the round robin centered on clarification and justification as opposed to explanation. The other six team members attempted to find ways to create a connection between the plethora of Spanish-directed research and the single-focused information about the French composer. Louise noted that Napoleon's invasion of Spain in 1808 could serve as a small link. The most interesting observation occurred during the reflective session immediately following the round robin. When asked to comment on their observations, Marilyn spoke first: "I want to know why everyone is so concerned about Spain. This is a French opera, written by a French composer, and everyone seems to have forgotten that. We can't write a curriculum about Spanish things and Spanish music when it's written by a French composer. There seems to be a real problem here."

Jonathan responded by suggesting that the social studies team could incorporate some history of Napoleon's invasion. Other than that comment, team members remained silent. The staff member leading the discussion suggested that possibly the music team could find some Spanish musical influences in the opera, such as the Habanera, and emphasize them. Marilyn responded by stating that "the music is French even if the opera is set in Spain. I guess we can find some Spanish connection, but it just doesn't make sense." Marilyn and Irene's unwillingness to critique --> deliberate --> reflect --> adjust, indicators of their habit of mind, exacerbated the unresolved issue.[24] The team's silence implicated a slight tip in the balance of allegiance from personal concern for the team to concern for the process and product. Consequent to this experience, team members receded into their discipline camps and proceeded to apply their research in written curriculum units given the term "conceptual frames."[25]

Conceptual Frames

Across a four week period, discipline teams drafted proposed conceptual frames, applying principles of previous discussions regarding vertical and horizontal alignment, scope and sequence, clarity of directions, and the use of multiple models of instruction. Team members returned to the following session for another round robin format of presentation. This time the team divided into pairings that reflected their choices on the socio-gram, thereby dissolving discipline teams for the following exercise.

During this round robin, team members critiqued each other's work for detail and alignment. To facilitate this process, these two large areas of consideration represented two rounds of review. Each critique team reviewed each discipline's conceptual frames twice. In the first round each critique team examined the frames for two items that included:

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[24]Roby, "Habits Impeding Deliberation," 18.

[25]Jon T. White, ed., *Carmen*, The Dallas Opera Instructional Series (Dallas: The Dallas Opera, 1996). The term "conceptual frame" was coined by the ARIA Project staff as an alternative to "lesson" and "unit" to designate a sequence of instruction. Each conceptual frame is specific to the cognitive concepts being developed in that sequence of instruction. As a rule the frames do not function in the same manner as lessons because a frame generally requires more than 30-45 minutes to present, to allow for practice; and to assess student understanding, but they are not as broad and encompassing as a unit.

appearance of outcomes, activities, clarity of instructions, different instructional models, sequencing, evidence of decision making, materials lists, and portfolio entries or other assessment tools. They delineated their observations on critique sheets and listed recommendations for clarity. In the second round, two critique teams examined conceptual frames for vertical alignment while the other two examined the frames for horizontal alignment. Again, the teams recorded their critiques on evaluation sheets.

During this exercise, team members worked assiduously to provide candid and helpful comments to their colleagues. The only strife noted during the process emerged when Louise became exasperated with the limited amount of time allotted to pour over each frame during the first round. When she realized that her first round involved ascertaining evidence of detail and not alignment of the component parts, her anxiety level quelled. Dissolving the discipline teams seemed to draw Marilyn and Irene from their allegiance to personal ideas to the idea of team unity and toward the design of an integrated curriculum. The peer critique sheets resulting from the round robins provided the impetus for discipline teams to deliberate, reflect, and adjust.

All information filtered directly to each discipline team at the end of the session. Discipline teams perused their team members' comments and discussed the ramifications of change with their discipline team members. In an open forum, team members discussed evaluations with critique team members for illumination. The balance of allegiance tipped toward team unity and characterized the centripetal force evident in the discussions. As before, the exception remained in the music team. Marilyn and Irene chided their colleagues, noting that "they lacked the musical knowledge necessary to critique our work." When staff members, themselves music educators, agreed with the critiques and offered to assist in adjustments, Marilyn and Irene became incensed, threatening to remove their students from participating in the opera's education program. Marilyn and Irene's inability to deliberate coupled with their personal level of concern placed them at a disadvantage as the team moved toward closure on creating an integrated curriculum.

Reflection and adjustment

The final step of Phase II, rewrite, placed the discipline teams in the position of incorporating their colleagues' comments into the adjustment of their conceptual frames. The teams had four weeks to make needed adjustments and return to the group for a final session, which was designed to check for adaptation of the suggestions. At this point two curriculum specialists read each revised frame and the attendant suggestions, comparing adjustments with the original frames, while team members worked with a production specialist on the development of the video tape. When necessary, curriculum specialists provided additional comments suggesting further clarity or alignment. Evidence that most discipline teams responded mindfully to their colleagues' comments appeared in the adjustments to their frames.

The music frames, however, showed no evidence of adjustment. Marilyn and Irene completely disregarded the comments of their colleagues. A closer examination of the details of each frame yielded serious cause for concern. Musical examples were inaccurately delineated, objectives did not match instruction, and the flow of instruction from one point to the next lacked connection. The music portion did not meet the standards of the team or the intent of the project. Consequently, curriculum consultants recommended a complete rewrite of the music frames.

In the final session, discipline teams reviewed the comments of the curriculum specialists and in an open forum discussed the recommendations for further adjustments. Discussions with Hilda and Yvonne, though somewhat tense, resulted in further clarity and understanding and a willingness to edit their work further for the betterment of the product. Their businesslike attitude toward the process reflected the majority of the team's demeanor during this part of the process. The six cooperating team members exhibited an intrapersonal equilibrium between their personal tension and the need for excellence in production. Their commitment to the curriculum's impact on student learning and understanding inspired them to return to the "drawing board" once more. In line with their

usual mode of operation, Marilyn and Irene refused to make any adjustments. Their portion of the curriculum then became the responsibility of the staff, who aligned the music component with the other three portions of the curriculum.

The Dallas Opera Instructional Series: Carmen

The product that transpired from the multiple efforts of so many exceeded both the *Cinderella* and *Madama Butterfly* materials. The teacher's guide included conceptual frames in four disciplines which cross-reference between disciplines and frames. The main concepts of each explore the art of opera as a reflection of the human condition and bring to light critical decision-making predicaments which confront the main characters. Cooperative and inquiry learning models of instruction place the learner at the center of instruction throughout. Portfolio entries, both finite to a frame and ongoing across frames, serve as a resource for students as they approach the culminating performance assessment task that employs their acquired knowledge and skills across all four disciplines. The addition of color slide reproductions of Goya paintings enhanced the breadth and quality of learning experiences for students.

As with all recommended curricula, a critical element exists in the preparation of the user and the implementation of the plan. To that end, The Dallas Opera sponsored a series of in-service workshops. Teams of teachers received instruction on the use of integrated materials and teachers' roles as school team members in the process of preparing students for the experience of a live performance of *Carmen*. The success of these in-service workshops falls outside the realm of this study. However, their impact on the level of use by consumers of the product has strong implications for the future of the ARIA Project.

Implications for the future of the ARIA Project

The welcome response from consumers indicated to The Dallas Opera education staff that the curriculum met or exceeded teachers' expectations. This success implies that,

with careful guidance, combining the efforts of teacher team members on a project of this magnitude results in a useful and meaningful product. Teachers on the team brought curriculum consumer backgrounds to the project, and transformed themselves into curriculum producers across a six month period.[26] This metamorphosis, though fraught with high levels of emotion, primordial change management concerns, and varying levels of commitment to the project and the team, appeared as a natural part of the process of curriculum development.[27]

The focus on Marilyn and Irene's penchant for isolationism contrasted with the amount of notoriety they received in relation to other team members. An accounting of the five observers' field notes indicates that among names mentioned by observers, Marilyn and Irene's names surfaced 43% of the time. Of the comments made, 100% were negative. Louise garnered 16% of the comments in field notes and in contrast, 82% were positive. Among the remaining five team members who surfaced in the remaining 40% of the comments, 93% of the comments were positive. These statements served as indicators of the appropriateness of fit for each team member to the project.

Based on field notes regarding staff members' perception of a teacher's appropriateness of fit to the intent of the project, team members correspondingly received classifications of appropriateness of fit. These included: ideal, good, acceptable, borderline, and unacceptable. The criteria for classification included: understanding of the project's intent, cooperation with others, work completion, and initiating ideas. Louise, Hilda, Yvonne, Maria, and Agnes profiled as a good fit by meeting the first three criteria. Jonathan completed his work, worked with others in discussion sessions but not production, and ultimately failed to understand the project's intent. Marilyn and Irene, both unacceptable fits, worked against the project and the team. This classification system, however, proved inadequate to provide a standardized profile for the project staff to determine the make-up of future teams.

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[26]Gray, "What Can Teachers Contribute," 120
[27]Sabar, "Integrative In-Service Training," 86-8.

Four attributes that were common among all team members emerged from the data analysis. These included: problem solving, perception of instructional modalities for their discipline, familiarity with the opera, and preconceived notions.[28] Each attribute expanded into variances (table 1). Each teacher's inventory within the attribute differed, and the combined inventory presented a profile for each teacher. The summary of these attributes provided the staff with valuable information for future team development decisions.

Insert Table 1 here

The pattern of attributes for different appropriateness of fit classifications found its basis in one key element—an exploratory mindset. Teachers characterized as a good fit willingly explored all five aspects of the problem solving attribute, in contrast to unacceptable fit teachers who bypassed the first four variables and immediately began developing a plan. Good fit teachers considered their discipline as one through which multiple means of learning seemed possible, whereas unacceptable fit teachers confined their instruction to limited facts. Although the majority of good fit teachers were somewhat familiar with opera, most had no first-hand knowledge, as opposed to unacceptable fit teachers who possessed extensive knowledge and experience with the work. This contrast lends credence to the notion that a little bit of knowledge can be beneficial at times, leaving potential for growth. Finally, good fit teachers came to the project with no preconceived notions, as contrasted by unacceptable fit teachers who came with preformed ideas. These findings indicate a need to bring teacher-teams together who have open minds, perceive instruction as child-centered, and display an inclination to problem solve on many levels.

A balance between personal needs, expectations of team members, and the need to produce a practical product became vital to the project's success. The success observed in the good fit teachers indicates that opera provides a viable source of integrated curriculum

[28]Fogarty and Bellanca, *Patterns for Thinking Patterns for Transfer*, 271-9.

design. The need by this team to develop component parts of the curriculum through discipline-based methodology stems from their practice of discipline-based instruction in their own classroom settings.[29] In spite of this disposition, teachers with minimal experience with this art form made valuable contributions as team members and producers of a curriculum.

The different tools the staff used to unify the team—the Kolb LSI, socio-gram, skill profile, and cooperative structures—served their purpose only when team members embraced their potential. The outstanding characteristics that separated Marilyn and Irene from the group, preformed ideas and tacit ownership of the art form, prevented them from participating on a higher level. It can be inferred that specialty teachers such as music educators, university-trained in isolation from core subject teachers, maintain that mentality when they enter the learning environment. In many schools, music, art, and physical education teachers are considered extras—a place to take children while classroom teachers grade papers or relax. Specialist teachers grapple with this isolation and protect their "turf", the arts, when integrative forces intervene.[30] This phenomenon could account for the possessive nature of Marilyn and Irene throughout the project. Based on the same experience with the music teacher during the *Cinderella* cycle, the data warrant some adjustment in selection.

The implication for the ARIA Project lies in recruiting new members to the design team for future cycles. Among the chief considerations for adjustment, an extended screening process for potential music teachers prompted ARIA staff to change. Teachers from other disciplines, even visual art, seem to respond in a constructive manner to

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[29]W. Harlen, "A Stronger Teacher Role in Curriculum Development?," *Journal of Curriculum Studies* 9, no. 1 (1977): 27; Patricia E. Campbell, "Integrating Curriculum: Enhancing Teacher Development and Student Learning" (Paper presented at the annual meeting of the National Institute for Staff and Organizational Development, Austin, Texas, May 1995), 9.

[30]Sue Snyder, "Integrating Music into the Curriculum Without Sacrificing Integrity" (Presentation at the annual meeting of the Texas Music Educator's Association, February 1995). A presentation made to elementary music teachers about the possibilities for integration. Dr. Snyder addressed the need to protect music education and warned against sacrificing the integrity of the art for the sake of the "other teachers in the building."

structures provided in the *Carmen* development cycle. Possibly, besides a written application, potential music teachers should undergo a personal interview with staff to determine their level of flexibility regarding topics that music educators consider as music-centric. Conversations with potential music team members would reveal attitudes toward other-discipline teachers, integrated curriculum, and music instruction, albeit a single-method or eclectic approach.

Conclusion

Designing an integrated curriculum with an opera as the impetus for context requires patience, contemplation, flexibility, understanding, and tenacity. Staff members must carefully select team members and include a variety of learning styles to assure the project's completion, depth, and breadth. The greatest challenge to the staff, to accept the will of the team and guide that will toward excellence in curriculum design, requires an understanding of the capabilities and limitations of an empowered team. The *Carmen* cycle of the ARIA Project provided the staff with insight into the strength of an empowered team and the dividend of that entitlement. The strain and the calm of working as a team engenders harmony among perceptive team members. Knowledge and experience of differences and likenesses among team members' disciplines, learning styles, preferences, and perceptions increases the potential and actualization of balance and accord in both the team and the product. These elements form the Yin and Yang of designing and producing an integrated curriculum.

Figure 1. Kolb Learning Styles Inventory cycle of earning model.
The coordinates indicated on the graph represent the members of the ARIA team.

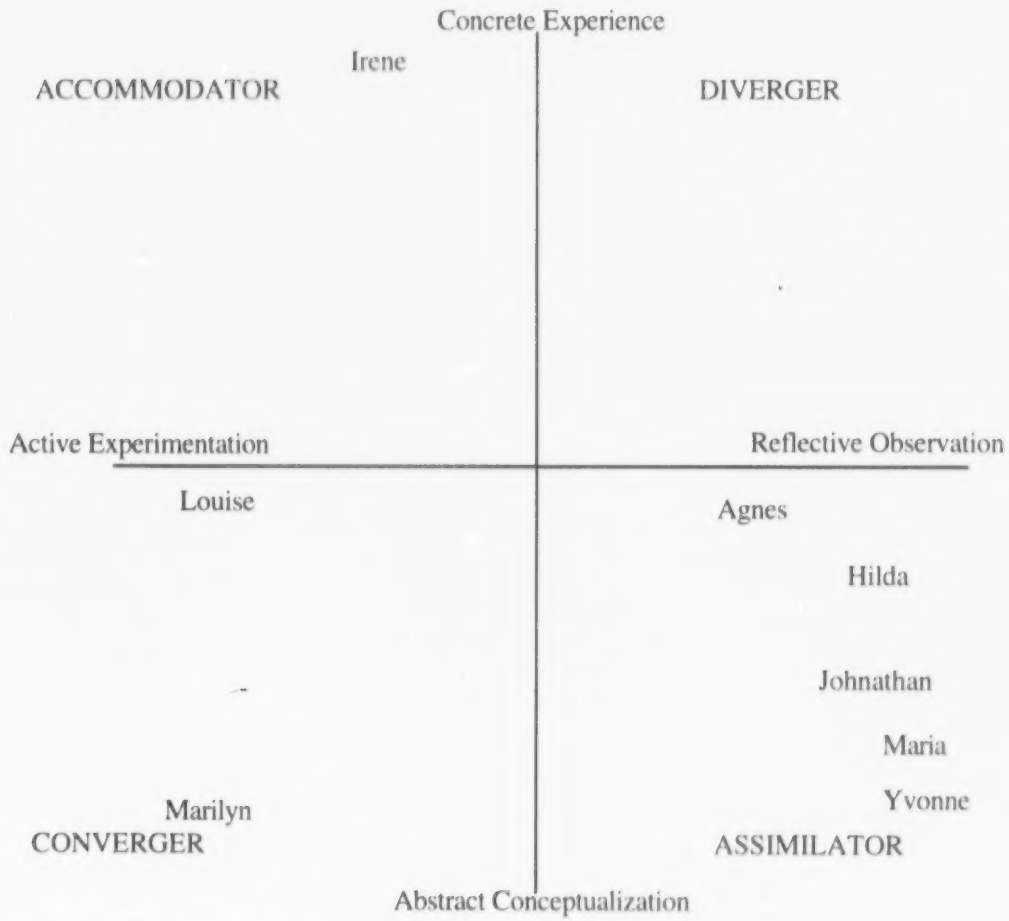

Figure 2. Socio-gram created for *Carmen* cycle of ARIA Project.
Team members' selection of amicable work partners. Arrows indicate the direction in which the selection was made. Arrowheads on both ends of a line imply that two team members selected each other. Single arrowheads indicate an unreciprocated selection.

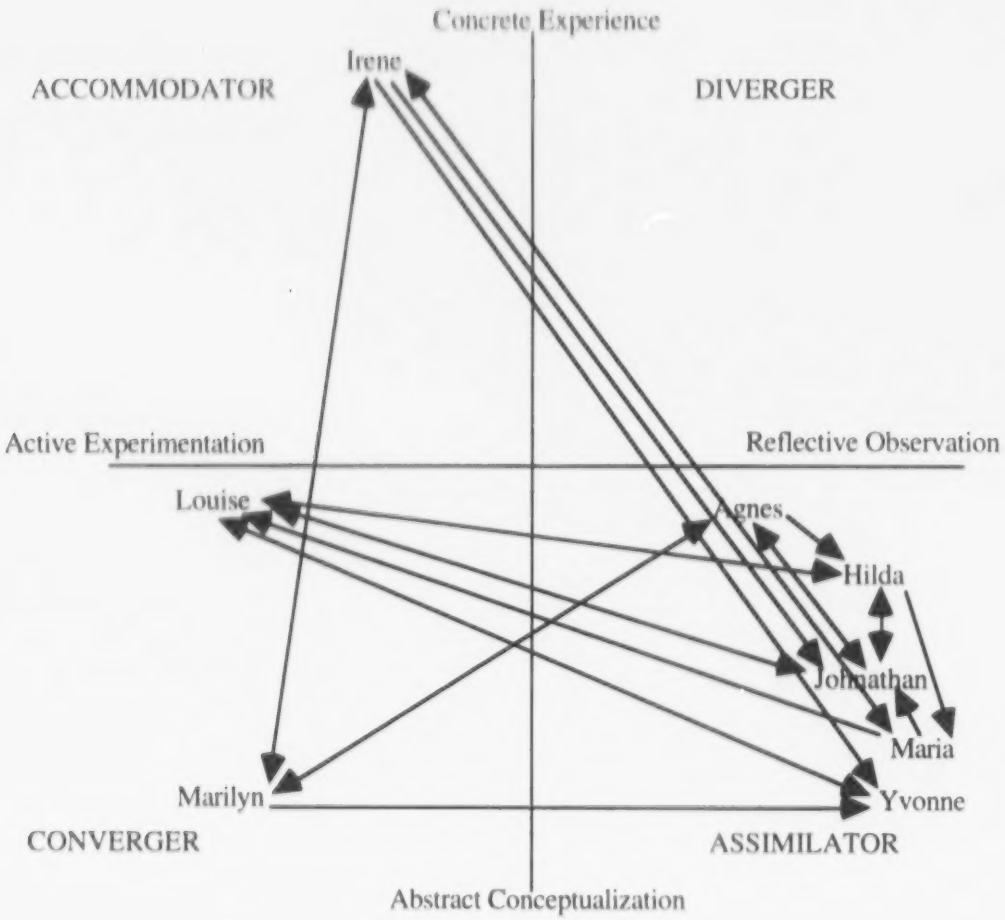

Figure 3. Integrated curricular design for *Carmen* cycle of ARIA Project. Inner circles (thinner lines) represent the nested concept of decision making.

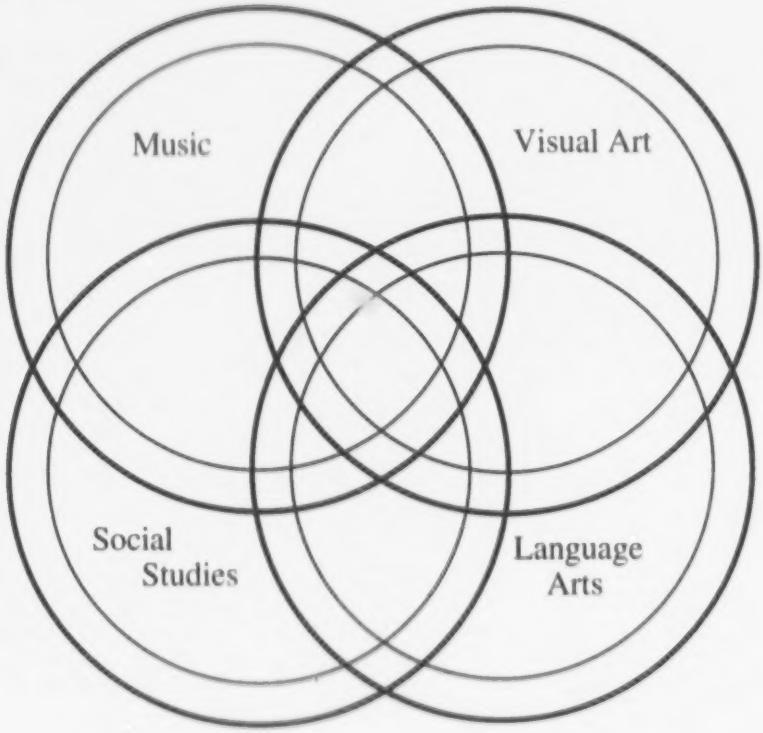

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Table 1. Appropriateness of Fit Profile for ARIA Project team members.

Participant Profile Name _____ Kolb Classification _____ Content Area _____

Problem Solving The extent of the shaded area indicates the amount of emphasis person placed on this area.	Fact Finding (gathering data for defining problem)	Problem Finding (analyzing problematic areas in order to pick out and point up problem to be attacked)	Idea Finding (producing ideas - thinking up, processing, developing numerous possible leads to solution)	Solution Finding (evaluating potential solutions against defined criteria)	Acceptance Finding (adopting - developing a plan of action)
PS Inventory					
Area of Study The extent of the shaded area indicates the curriculum designer's of perception expectations of content area	Discovery Learning (students encouraged to find path of learning through discovery)	Performance Based Learning (students learn through accumulating information resulting in performance presentation)	Skill Based Learning (students learn through acquiring certain skills)	Fact Based Learning (students learn by accumulating facts about a particular subject)	Limited Facts and Skills Acquisition (students learn only the facts that the teacher determines are pertinent for a given time, age, grade, piece of information)
AS Inventory					
Familiarity With Masterwork The extent of the shaded area indicates the level of familiarity with the masterwork.	Very Familiar (knows the masterwork very well; may have taught the work before)	Familiar (has seen works similar to this one; may know some component parts of work)	Somewhat Familiar (knows the type of work; has never seen work)	Unfamiliar (has never seen a work of this sort; knows that this type of work exists)	No familiarity (has never heard of this kind of work; generally clueless
FWM Inventory					
Preconceived Notions The extent of the shaded area indicates the level of preconception the participant brought to the project.	All Ideas Preformed (participant formulates plan before group convenes)	Many Ideas Preformed (participant considers many angles prior to start of planning session and has begun to formulate a plan)	Some Ideas Preformed (participant considers some ideas but has not formulated a plan yet)	A few Ideas Preformed (participant considers a few ideas but waits for more direction before formulating a plan)	No Ideas Preformed (participant enters the project as a Tabla Rassa)
PN Inventory					
Assessment of goodness of fitness by observers	Ideal Fit (participant understands intent of project; cooperates with others; completes work satisfactorily; initiates	Good Fit (participant works with others; completes work; understands intent)	Acceptable Fit (participant completes work; understands intent)	Borderline Fit (participant works alone; work inadequate; interpretation of intent questionable)	Unacceptable Fit (participant works alone or in collusion with another; has vision outside of project's intent; poor work
Fitness Inventory					